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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/663,563	09/15/2000	Thomas E. Saulpaugh	5181-72000	3700

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EXAMINER
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KANG, INSUN

ART UNIT	PAPER NUMBER
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2193

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/663,563	<b>Applicant(s)</b> SAULPAUGH ET AL.	
	<b>Examiner</b> Insun Kang	<b>Art Unit</b> 2193	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 July 2005 and 26 September 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-90 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-90 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/18/2005</u>   | 6) <input type="checkbox"/> Other: _____                                    |

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### DETAILED ACTION

1. This action is in response to the amendment filed 7/18/2005 and 9/26/2005.
2. Claims 1-90 are pending in the application.

#### ***Information Disclosure Statement***

3. The information disclosure statement (IDS) submitted on 7/18/2005 is being considered by the examiner.

#### ***Double Patenting***

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-90 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-66 of copending Application No.09/663,564.

Although the conflicting claims are not identical, they are not patentably distinct from each other because they are directed to substantially the same invention and recites only obvious differences which would have been obvious to one of ordinary skill in the art of program development at the time of invention such as simply (i)

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omitting/adding steps or elements along with their functions, and/or (ii) implementing the method steps with means for performing the steps, and/or (iii) computer program implementation of the method, and/or (iv) implementing a system and medium having computer program for performing the method steps, as explained below.

The following example is given:

Per claim 1:

Copending claim 1 recites **A method for representing computer programming language objects in a data representation language** ("A method for representing a state of a process in a data representation language in a distributed computing environment") **a process executing within a virtual machine providing a first computer programming language object to a compilation process of the virtual machine, wherein the first object is an instance of a class in the computer programming language; and the compilation process of the virtual machine converting the first object into a data representation language representation of the first object** ("executing the process within a first device; converting a current computation state of the process into a data representation language representation of the current computation state, wherein the computation state of the process comprises information about the execution state of the process within the first device) **wherein the data representation language representation of the first object is configured for use in generating a copy of the first object** ("wherein the data representation language representation of the current computation

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state of the process is configured for use in reconstituting the process and resuming execution" of the process") as recited in instant claim 1. The instant claim does not explicitly recite "storing the data representation...of the process." However, it would have been obvious for one of ordinary skill in the pertinent art at the time the instant invention was made to modify the instant claim by adding the phrase, "storing...of the process" recited in the copending application for the purpose of expediting the method.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claim Rejections - 35 USC § 101***

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 1-39 and 71-90 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-39 are non-statutory because they are directed to a "method" without recitation of a computer or a computer-readable medium embodying the method. The claims merely recite a "method" comprising a virtual machine and processes that are disembodied arrangement so as to be called a "computer program" or compilation of facts, information, or data *per se*, without creating any functional interrelationship, either as part of the stored data or as part of the computing processes performed by the computer ("acts") or computer readable medium so as to enable the computer to

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perform the claimed steps of receiving, generating etc as recited. Thus the claims represent non-functional descriptive material that is not capable of producing a useful result, and hence represent only abstract ideas. Therefore, the claims are non-statutory.

Per claims 71-90: The computer accessible medium is defined in the specification to include signals (page 187, conclusion). When nonfunctional descriptive material is recorded on some computer-readable/accessible medium, in a computer or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored in a computer-readable medium, in a computer, on an electromagnetic carrier signal does not make it statutory. Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in Sec. 101. The claimed computer accessible medium including a signal is clearly not a "process" under Sec. 101 because it is not a series of steps. Thus the claims represent non-functional descriptive material that is not capable of producing a useful result, and hence represent only abstract ideas. Therefore, the claims are non-statutory.

### ***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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9. Claims 12-24 and 78-84 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Per claims 12-24 and 78-84, it is unclear what the term, "decompilation" notes, is it meant to be the reverse process of compilation that is to recover the source code? Usually all software are copyrighted by the authors. Clarification is requested.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 1-90 are rejected under 35 U.S.C. 102(e) as being anticipated by Tuatini (US Pub. 20020035645).

Per claim 1:

Tuatini discloses:

-a process executing within a virtual machine providing a first computer programming language object to a compilation process of the virtual

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machine, wherein the first object is an instance of a class in the computer programming language (i.e. 0079)

- the compilation process of the virtual machine converting the first object into a data representation language representation of the first object (i.e. 0079);

wherein the data representation language representation of the first object is configured for use in generating a copy of the first object (i.e. 0079) as claimed.

Per claim 2:

The rejection of claim 1 is incorporated, and further, Tuatini teaches:

the compilation process converting the one or more objects into data representation language representations of the one or more objects (i.e. 0079).

Per claim 3:

The rejection of claim 1 is incorporated, and further, Tuatini teaches:

-processing the first object into an intermediary table representation of the first object; and processing the intermediary table representation of the first object into the data representation language representation of the first object (i.e. 0063).

Per claim 4:

The rejection of claim 3 is incorporated, and further, Tuatini teaches:

for each of the one or more instance variables in the first object, generating an entry in the intermediary table representation of the first object, wherein the entry for each of the one or more instance variables includes an identifier of the instance variable and a value of the instance variable (i.e. 0079).

Per claim 5:



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The rejection of claim 4 is incorporated, and further, Tuatini teaches:

the first object comprises a plurality of instance variables with the same identifier, and wherein the entry for each of the plurality of instance variables with the same identifier further includes an enumeration value that uniquely identifies the instance variable in the plurality of instance variables with the same identifier (i.e. 0082-84).

Per claim 6:

The rejection of claim 4 is incorporated, and further, Tuatini teaches:

-for each of one or more entries in the intermediary table representation of the first object, generating a corresponding element in the data representation language representation of the first object, wherein the element in the data representation language representation of the first object includes an identifier of the instance variable and a value of the instance variable (i.e. 0082; 84).

Per claim 7:

The rejection of claim 6 is incorporated, and further, Tuatini teaches:

the one or more elements in the data representation language representation of the first object are configured for use in initializing one or more corresponding instance variables in the copy of the first object (i.e. 0082-84).

Per claim 8:

The rejection of claim 1 is incorporated, and further, Tuatini teaches:

providing an application programming interface (API) for the compilation process, wherein the API comprises interfaces to one or more methods of the compilation

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process configured for use by processes executing within the virtual machine to convert computer programming language objects into data representation language representations of the objects (i.e. 0081).

Per claim 9:

The rejection of claim 1 is incorporated, and further, Tuatini teaches:

-said data representation language is extensible Markup Language (XML) (i.e. 0081) as claimed.

Per claim 10:

The rejection of claim 1 is incorporated, and further, Tuatini teaches:

said computer programming language is the Java programming language (i.e. 0079).

Per claim 11:

The rejection of claim 1 is incorporated, and further, Tuatini teaches:

-the virtual machine is a Java Virtual Machine (JVM) (i.e. 0079) as claimed.

Per claim 12:

Tuatini teaches:

-a virtual machine receiving a data representation language representation of a first computer programming language object from a first process (i.e. 0079).

a decompilation process of the virtual machine generating the first object from the data representation language representation of the first object, wherein the first object is an instance of a class in the computer programming language; and the decompilation

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process of the virtual machine providing the first object to a second process executing within the virtual machine (i.e. 0079; 0082-84).

Per claim 13:

The rejection of claim 12 is incorporated, and further, Tuatini teaches:

the first object references one or more computer programming language objects, wherein the representation of the first object includes representations of the one or more referenced objects (i.e. 0079; 0082-84).

Per claim 14:

The rejection of claim 13 is incorporated, and further, Tuatini teaches:

- the decompilation process generating the one or more referenced objects from the representations of the one or more referenced objects included in the representation of the first object (i.e. 0079; 0082-84).

Per claim 15:

The rejection of claim 12 is incorporated, and further, Tuatini teaches:

processing the data representation language representation of the first object into an intermediary table representation of the first object; and generating the first object from the intermediary table representation of the first object (i.e. 0079; 0081-84).

Per claim 16:

The rejection of claim 15 is incorporated, and further, Tuatini teaches:

- one or more elements each representing an instance variable of the first object, wherein each element in the data representation language representation comprises an

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identifier for the instance variable represented by the element and a value for the instance variable represented by the element. (i.e. 0079; 0082-84).

Per claim 17:

The rejection of claim 16 is incorporated, and further, Tuatini teaches:

representation language representation of the representation of the first object comprises generating an entry in the intermediary table representation of the first object for each of the one or more elements in the data representation language representation of the first object(i.e. 0079; 0082-84).

Per claim 18:

The rejection of claim 17 is incorporated, and further, Tuatini teaches:

instantiating the first object as an instance of the class; and for each of the one or more entries in the intermediary table representation of the first object, initializing a corresponding instance variable in the first object in accordance with the entry (i.e. 0079; 0082-84).

Per claim 19:

The rejection of claim 17 is incorporated, and further, Tuatini teaches:

instantiating the first object as an instance of the class; and for each of the one or more entries in the intermediary table representation of the first object, invoking a method corresponding to the identifier of the instance variable from the entry to initialize a corresponding instance variable in the first object to the value of the instance variable from the entry (i.e. 0079; 0082-84).

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Per claim 20:

The rejection of claim 12 is incorporated, and further, Tuatini teaches:

the data representation language representation of the first object comprises an identifier of the class of the first object, and wherein the decompilation process generating the first object from the data representation language representation of the first object comprises instantiating the first object as an instance of the class associated with the class identifier(i.e. 0079; 0082-84)..

Per claim 21:

The rejection of claim 16 is incorporated, and further, Tuatini teaches:

providing an application programming interface (API) for the decompilation process, wherein the API comprises interfaces to one or more methods of the decompilation process configured for use by processes executing within the virtual machine to generate computer programming language objects from data representation language representations of the objects. (i.e. 0079; 0081-84).

Per claim 22:

The rejection of claim 12 is incorporated, and further, Tuatini teaches:

Said data representation language is extensible Markup Language (XML) (i.e. 0079; 0082-84).

Per claim 23:

The rejection of claim 12 is incorporated, and further, Tuatini teaches:

said computer programming language is the Java programming language. (i.e. 0079; 0082-84).

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Per claim 24:

The rejection of claim 12 is incorporated, and further, Tuatini teaches:

the virtual machine is a Java Virtual Machine (JVM). (i.e. 0079; 0082-84).

Per claim 25:

Tuatini teaches:

a first virtual machine receiving from a first process a computer programming language object, wherein the object is an instance of a class in the computer programming language(i.e. 0079; 0082-84).

the first virtual machine generating a representation of the object in a data representation language subsequent to said receiving (i.e. 0079; 0082-84).

generating a message in the data representation language, wherein the message includes the data representation language representation of the object; (i.e. 0079; 0082-84) sending the message to a second process; and the second process generating a copy of the computer programming language object from the data representation language representation of the object included in the message(i.e. 0079; 0082-84).

Per claim 26:

The rejection of claim 25 is incorporated, and further, Tuatini teaches:

the object references one or more computer programming language objects, and wherein said generating a representation of the object in a data representation language comprises generating data representation language representations of the one or more objects.

Per claim 27:

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The rejection of claim 25 is incorporated, and further, Tuatini teaches:

-for each of the one or more instance variables in the object, generating an element in the data representation language representation of the first object, wherein the element for each of the one or more instance variables includes an identifier of the instance variable and a value of the instance variable.

Per claim 28:

The rejection of claim 25 is incorporated, and further, Tuatini teaches:

the second process receiving the message including the data representation language representation of the object; the second process providing the data representation language representation of the object to a second virtual machine; the second virtual machine generating the copy of the object from the data representation language representation of the object; and the second virtual machine providing the copy of the object to the second process (i.e. 0079; 0081-84).

Per claim 29:

The rejection of claim 28 is incorporated, and further, Tuatini teaches:

the first object references one or more computer programming language objects, wherein the data representation language representation of the first object includes data representation language representations of the one or more referenced objects, and wherein said generating the copy of the object from the data representation language representation of the object comprises generating copies of the one or more referenced objects from the data representation language representations of the one or more referenced objects(i.e. 0079; 0081-84).

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Per claim 30:

The rejection of claim 28 is incorporated, and further, Tuatini teaches:

instantiating the copy of the object as an instance of the class; and  
for each of the one or more elements in the data representation language  
representation of the object, initializing a corresponding instance variable  
in the copy of the object in accordance with the element (i.e. 0079; 0081-84).

Per claims 31-33, they are another method versions of claims 9-11, respectively,  
and are rejected for the same reasons set forth in connection with the rejection of claims  
9-11 above.

Per claim 34:

Tuatini teaches:

a first process receiving a message in a data representation language from a  
second process, wherein the message includes information representing a  
computer programming language object; the first process providing the information  
representing the object to a virtual machine; the virtual machine generating the object  
from the information representing the object, wherein the object is an instance of a class  
in the computer programming language; and the virtual machine providing the  
generated object to the first process (i.e. 0079; 0081-84).

Per claim 35:



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The rejection of claim 34 is incorporated, and further, Tuatini teaches: information representing one or more instance variables of the object, wherein the information representing each of the one or more instance variables comprises an identifier for the instance variable and a value for the instance variable (i.e. 0079; 0081-84).

Per claim 36:

The rejection of claim 35 is incorporated, and further, Tuatini teaches: instantiating the object as an instance of the class; and for each of the one or more instance variables, initializing a corresponding instance variable in the object in accordance with the information representing the instance variable (i.e. 0079; 0081-84).

Per claim 37-39: they are another method versions of claims 9-11, respectively, and are rejected for the same reasons set forth in connection with the rejection of claims 9-11 above.

Per claims 40-49, they are the device versions of claims 1-11-, respectively, and are rejected for the same reasons set forth in connection with the rejection of claims 1-11 above.

Per claims 50-61, they are another device versions of claims 1-11-, respectively, and are rejected for the same reasons set forth in connection with the rejection of claims 1-11 above.

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Per claims 62-70, they are the medium versions of claims 1-11-, respectively, and are rejected for the same reasons set forth in connection with the rejection of claims 1-11 above.

Per claims 71-77, they are another medium versions of claims 1-11-, respectively, and are rejected for the same reasons set forth in connection with the rejection of claims 1-11 above.

Per claims 78-83, they are the medium versions of claims 12-24, respectively, and are rejected for the same reasons set forth in connection with the rejection of claims 12-24 above.

Per claims 84-90, they are the medium versions of claims 25-33, respectively, and are rejected for the same reasons set forth in connection with the rejection of claims 25-33 above.

### ***Response to Arguments***

13. Applicant's arguments with respect to claims 1-90 have been considered but are moot in view of the new ground(s) of rejection.

Therefore, this action is made non-final.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Insun Kang whose telephone number is 571-272-3724. The examiner can normally be reached on M-F 7:30-4 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on 571-272-3719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

I. Kang

AU 2193

*26*

*Kakali Chaki*  
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